CLAIMS

What is claimed as new and desired to be protected by Letters Patent of the United States is:

1. A data drive, comprising:

a drive base;

a receiver for receiving a storage media device, the receiver being movably coupled to the drive base and translatable from an unloaded position to a loaded position;

a media flag movably coupled to the receiver and translatable from a first position to a second position when the storage media device is inserted into the receiver;

a media flag sensor fixedly coupled to the drive base for detecting movement of the receiver flag;

a receiver flag fixedly coupled to the receiver; and

a receiver flag sensor fixedly coupled to the drive base for detecting movement of the receiver flag.

2. The data drive of claim 1, further comprising:

a read head for reading data from a tape contained in the storage media device.

3. The data drive of claim 1, wherein:

the receiver receives a storage media device comprising a tape cartridge.

4. The data drive of claim 1, further comprising:

a lock release member coupled to the receiver and positioned to release a reel lock of a compatible storage media device and to prevent full insertion of an incompatible storage media device.

5. The data drive of claim 1, further comprising:

a drive controller coupled to the media flag sensor and the receiver flag sensor for receiving sensor signals from the media flag sensor and the receiver flag sensor.

6.   The data drive of claim 5, wherein:

the drive controller determines a storage media device type based on detection of the media flag and receiver flag.

7.   The data drive of claim 6, wherein:

the media flag comprises an insertion depth datum;

the receiver flag comprises a distance datum; and

the drive controller determines a storage media device type based on detection of the media flag and receiver flag by identifying the inserted storage media device as a first type of storage media device if the distance datum is detected before the insertion depth datum is detected and identifying the inserted storage media device as a second type of storage media device if the distance datum is detected after the insertion depth datum is detected.

8.   The data drive of claim 6, wherein:

the media flag comprises an insertion depth datum;

the receiver flag comprises a distance datum; and

the drive controller determines a storage media device type based on detection of the media flag and receiver flag by determining a distance between the insertion depth datum and the distance datum and identifying storage media device type corresponding to the distance between the insertion depth datum and the distance datum.

9.   The data drive of claim 6, wherein:

the media flag comprises an insertion depth datum;

the receiver flag comprises a distance datum; and

the drive controller determines a storage media device type based on detection of the media flag and receiver flag by detecting the insertion depth datum of the media flag using the media flag sensor and as the receiver travels

from the unloaded position to the loaded position monitoring the distance of travel of the receiver between the detection of the insertion depth datum and a detection of the distance datum on the receiver flag by the receiver flag sensor.

10. A method of operating a data drive, comprising:

receiving a storage media device into a receiver such that the storage media device contacts a media flag movably coupled to the receiver;

detecting movement of the media flag using a media flag sensor;

actuating movement of the receiver from an unloaded position to a loaded position; and

detecting movement of a receiver flag fixedly coupled to the receiver using a receiver flag sensor.

11. The method of claim 10, further comprising:

determining a storage media device type based on detection of the media flag and the receiver flag.

12. The method of claim 11, wherein:

the media flag comprises an insertion depth datum, and the receiver flag comprises a distance datum; and

the determining the storage media device type based on detection of the media flag and receiver flag comprises:

identifying the inserted storage media device as a first type of storage media device if the distance datum is detected before the insertion depth datum is detected; and

identifying the inserted storage media device as a second type of storage media device if the distance datum is detected after the insertion depth datum is detected.

13. The method of claim 11, wherein:

the media flag comprises an insertion depth datum, and the receiver flag comprises a distance datum; and

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the determining the storage media device type based on detection of the media flag and receiver flag comprises:

inserting a portion of the media flag into an indicator slot of the storage media device;

determining a distance between the insertion depth datum and the distance datum; and

identifying storage media device type corresponding to the distance between the insertion depth datum and the distance datum.

14. The method of claim 11, wherein:

the media flag comprises an insertion depth datum, and the receiver flag comprises a distance datum; and

the determining the storage media device type based on detection of the media flag and receiver flag comprises:

as the receiver travels from the unloaded position to the loaded position, detecting the insertion depth datum of the media flag using the media flag sensor and monitoring the distance of travel of the receiver between the detection of the insertion depth datum and a detection of the distance datum on the receiver flag by the receiver flag sensor.

15. The method of claim 11, wherein the monitoring the distance of travel of the receiver comprises:

translating the receiver using a motor; and

measuring the rotation of the motor between the detection of the insertion depth datum and the detection of the distance datum.

16. The method of claim 15, wherein the monitoring the distance of travel of the receiver further comprises:

calculating the distance of travel of the receiver using the measured rotation of the motor and a known correspondence between the rotation of the motor and the travel of the receiver.

17.   The method of claim 11, wherein the monitoring the distance of travel of the receiver comprises:

translating the receiver at a predetermined speed; and

determining an elapsed time between the detection of the insertion depth datum and the detection of the distance datum.

18.   The method of claim 17, the determining the storage media device type based on detection of the media flag and receiver flag further comprises:

calculating a distance between the insertion depth datum of the media flag and the distance datum of the receiver flag based on the predetermined speed and the elapsed time; and

correlating the calculated distance with a known distance for a known storage media device type.

19.   The method of claim 17, the determining the storage media device type based on detection of the media flag and receiver flag further comprises:

correlating the elapsed time between the detection of the insertion depth datum and the detection of the distance datum with a known elapsed time for a known storage media device type.

20.   The method of claim 10, further comprising:

upon detection of a load request datum of the receiver flag using the receiver flag sensor, issuing a load request signal to begin actuation of the movement of the receiver.

21.   The method of claim 10, further comprising:

upon detection of a load request datum of the receiver flag by the receiver flag sensor:

if a storage media device present datum of the storage media device is detected by the storage media device sensor, then issuing a load request signal to begin actuation of the movement of the receiver, and

if the storage media device present datum of the storage media device is not detected by the storage media device sensor, then not issuing a load request signal to begin actuation of the movement of the receiver.

22.   The method of claim 10, wherein:

the receiving the storage media device into the receiver comprises receiving a tape cartridge into the receiver.